TECHNICAL REVIEW DOCUMENT FOR OPERATING PERMIT 950PMF031

to be issued to:

Questar Gas Management Company Powder Wash Compressor Station Moffat County Source ID 0810049

Prepared by Doris Jung on August 24, 1998

I. Purpose

This document establishes the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit proposed for this site. It is designed for reference during review of the proposed permit by the EPA and during Public Comment. The conclusions made in this report are based on information provided in the application submittal of July 7, 1998 and additional information received on May 13, 1998 and August 20, 1998. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

On April 16, 1998 the Colorado Air Quality Control Commission directed the Division to implement new procedures regarding the use of short term emission and production/throughput limits on Construction permits. These procedures are being directly implemented in all operating permits that had not started their Public Comment period as of April 16, 1998. All short term emission and production/throughput limits that appeared in the construction permits associated with this facility that are not required by a specific State or Federal standard or by the above referenced Division procedures have been deleted and all annual emission and production/throughput limits converted to a rolling 12 month total. Note that, if applicable, appropriate modeling to demonstrate compliance with the National Ambient Air Quality Standards was conducted as part of the Construction Permit processing procedures. If required by this permit, portable monitoring results and/or EPA reference test method results will be multiplied by 8760 hours for comparison to annual emission limits unless there is a specific condition in the permit restricting hours of operation.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to

operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

II. Source Description

The Powder Wash Compressor Station is co-located with Questar Pipeline's Powder Wash Dew Point Plant. For Title V and PSD purposes, the Division considers that the two facilities, Powder Wash Compressor Station and Powder Wash Dew Point Plant, constitute a single source. Questar Pipeline and Questar Gas Management have requested a separate Operating Permit for each facility.

The primary activity at the site is natural gas transmission, as defined under Standard Industrial Classification 1311. The Powder Wash Compressor Station is a natural gas compressor plant that uses four internal combustion reciprocating engines to drive compressors and transmit natural gas gathered from the gas field laterals to a primary pipeline. Each compressor engine has an exhaust stack for venting products of combustion. Two internal combustion, reciprocating engines are used to drive generators that provide electric power to the camp area (home to approximately 60 people), a school house, drinking water wells, the fire protection system, and to the compressor station. Each generator engine also has an exhaust stack for venting the products of combustion.

The Powder Wash Compressor Station contains two glycol dehydration units used to dehydrate the compressed natural gas. The dehydration process contacts "dry" triethylene glycol with the outgoing gas to absorb water and prevent water from entering the pipeline. The "wet" glycol is then regenerated in a heated tank for reuse in the process. The glycol dehydration units include indirect, gas-fired burners to heat the glycol regenerating tanks. The gas burners and the glycol regenerating tanks are each vented separately.

The facility is located approximately 50 miles northwest of Craig in Moffat County, in an area designated as attainment for all criteria pollutants. The facility is located within 50 miles of Utah and Wyoming and within 100 kilometers of two Federal Class I areas, Mount Zirkel and Flat Tops Wilderness Areas. Facility wide emissions for pollutants of concern, Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Volatile Organic Compounds (VOC), and Hazardous Air Pollutants (HAPs) in tons per year (tpy) are as follows:

| <u>Pollutant</u> | Potential to Emit (tpy) | Actual Emissions (tpy) |
|------------------|-------------------------|------------------------|
| NO_x | 377.3 | 148.6 |
| CO | 56.7 | 30.7 |
| VOC | 152.0 | 37.6 |
| HAPs | 58.5 | 14.2 |

Facility wide potential emissions and actual emissions are based on data submitted with the Title V Operating Permit application. Total emissions for the two facilities, Powder Wash Compressor Station and Powder Wash Dew Point Plant, are as follows:

| Pollutant | Potential to Emit (tpy) | Actual Emissions (tpy) |
|------------------|-------------------------|-------------------------------|
| NO_x | 392 | 154 |
| CO | 64 | 35 |
| VOC | 205 | 51 |
| HAPs | 59 | 14.2 |

This source is considered to be a major source in an attainment area (Potential to Emit > 250 tons per year) and is considered major for future purposes of Prevention of Significant Deterioration (PSD) regulations. Modifications up to this point in time have not triggered significance levels which would bring about PSD Review. Future modifications to this facility which are in excess of significance levels as defined in Colorado Regulation No. 3, Part A, Section I.B.58 will result in the application of the PSD review requirements. This source is also major for HAPs.

This facility currently has no applicable MACTs. However, a MACT for Oil and Natural Gas Production/Natural Gas Transmission and Storage is scheduled to be promulgated in May 1999. Questar Pipeline indicated that this facility is not subject to 112(r). Questar Pipeline certified to operating in compliance with all applicable requirements at the time of their application submittal on July 7, 1998.

III. Emission Sources

The following sources are specifically regulated under the terms and conditions of the Operating Permit for this Site:

Unit P101 - Ingersoll-Rand 4-Cycle Rich Burn Internal Combustion Engine, Model 8-XVG, S/N: 8FV1241, 2.2 MMBtu/hr, 266 hp, Natural Gas Fired.

1. Applicable Requirements

This unit was last modified in 1946. Prior to June 1983, Colorado Regulation No. 3, Part B, Section III.D.c.ii exempted engines less than 1000 hp from state permitting requirements. As noted above, this engine meets this exemption criteria. The applicable requirements for this engine are as follows:

- 20% Opacity limitation during normal operations (Regulation No. 1, Section II.A.1)
- APEN Reporting (Regulation No. 3, Part A, Section II)

2. Emission Factors

Emissions from this engine are produced during the combustion process, and are dependent upon the air to fuel ratio adjustment, engine design specifications, and specific properties of the natural gas being burned. The pollutants of concern are NO_x , CO and VOC. The AP-42 (EPA Compilation of Air Pollutant Emission Factors, October 1996) emission factors for 4-cycle rich burn reciprocating engines from Table 3.2-1 and the manufacturer's emission factors for the engine are as follows:

| Pollutant Pollutant | <u> AP-42 (g/hp-hr)</u> | Manufacturer (g/hp-hr) |
|---------------------|-------------------------|------------------------|
| NO _x | 10 | 13 |
| CO | 8.6 | 11.4 |
| VOC | 0.14 | 1.14 |

The manufacturer's emission factors are higher than the AP-42 factors for all pollutants.

3. Monitoring Plan

Questar shall calculate emissions for fee purposes by multiplying the manufacturer's emission factors by the maximum site-rated horsepower and the recorded hours of operation. They will be required to conduct the emissions calculations on an annual basis and submit an annual report with the compliance certification. This is consistent with the internal combustion engine monitoring grid developed by the Division (attached).

The Opacity standard of 20% will be monitored by the use of natural gas. Inspectors may verify this with EPA Method 9 opacity readings, if necessary.

A revised APEN must be submitted to the Division as required by Regulation No. 3, Part A, Section II.C.

4. Compliance Status

A current APEN reporting actual criteria emissions for the 1993 data year is on file with the Division for this engine. No records indicating non-compliance were found in a review of the facility's APCD files and the source certified in their application that they are currently in compliance with all applicable requirements. Therefore, this unit is currently considered to be in compliance with all applicable requirements.

Unit P102 - Waukesha 4-Cycle Rich Burn Internal Combustion Engine, Model L5788G, S/N: 9703278, 4.9 MMBtu/hr, 639 hp, Natural Gas Fired.

1. Applicable Requirements

This engine replaces a grandfathered engine (S/N 93516) of the same make and model. On May 13, 1998, Questar submitted a revised APEN for the installation of this replacement engine. Replacement is scheduled to occur in September 1999. Since this source is major for Prevention of Significant Deterioration (PSD), the net emissions increase was examined to determine whether PSD Review was required. The average actual NO $_{\rm x}$ emissions for 1997 and 1996 of the grandfathered engine, determined from APENs filed, are 60.4 tpy. Questar requested NO $_{\rm x}$ emissions for the replacement engine at 111 tpy. The net emissions increase is 50.6 tpy, which exceeds the NO $_{\rm x}$ PSD threshold of 40 tpy (Regulation No. 3, Part A, Section I.B.58). Questar has requested a PSD synthetic minor modification to limit the net emissions increase to less than 40 tpy to avoid triggering PSD Review. This modification shall be processed under the combined

construction/operating permit procedure and the applicable requirements are incorporated into the Operating Permit. Per Division policy, this engine is permitted with a NO_x emission limit of 99.4 tpy, a net NO_x emissions increase of 39 tpy. Modeling was performed and determined the impact of the net increase of emissions is below the NAAQS standard. The applicable requirements for this engine are as follows:

- Construction of this unit must commence by March 1, 2000
- Questar shall notify the Division of the day of installation and start-up within 30 days of each event
- NO_x: 99.4 tpy and 8.28 ton/mo
- CO: 5.7 tpy and 0.48 ton/mo
- VOC: 0.74 tpy and 0.062 ton/mo
- Fuel use limited to 37.14 MMscf/yr and 3.095 MMscf/mo
- A source compliance test shall be conducted to measure the emission rate of oxides
 of nitrogen, carbon monoxide, and oxygen, using EPA approved methods. The test
 protocol must be in accordance with the requirements of the Air Pollution Control
 Division Compliance test manual and shall be submitted to the Division for review and
 approval at least thirty (30) days prior to testing. No compliance test shall be conducted
 without prior approval from the Division
- Serial number of the equipment for this emission unit shall be provided to the Division within 180 days of installation (Regulation No. 3, Part B, Section IV.E)
- 20% Opacity limitation during normal operations (Regulation No. 1, Section II.A.1)
- APEN Reporting (Regulation No. 3, Part A, Section II)

During the first twelve (12) months of operation, compliance with both the monthly and yearly emission and fuel use limitations shall be required. After the first twelve (12) months of operation, compliance with only the yearly limitation as a rolling twelve month total shall be required.

The semi-annual monitoring report submitted more than 180 days after commencement of operation shall serve as the self-certification for this unit.

2. Emission Factors

Emissions from these engines are produced during the combustion process, and are dependent upon the air to fuel ratio adjustment, engine design specifications, and specific properties of the natural gas being burned. The pollutants of concern are NO_x , CO and VOC. The AP-42 (EPA Compilation of Air Pollutant Emission Factors, October 1996) emission factors for 4-cycle rich burn reciprocating engines from Table 3.2-1 and the manufacturer's emission factors for this engine are as follows:

| <u>Pollutant</u> | AP-42 (lb/MMBtu) | Manufacturer (lb/MMBtu) |
|------------------|------------------|-------------------------|
| NO_x | 2.3 | 5.0 |
| CO | 1.6 | 0.29 |
| VOC | 0.03 | 0.037 |

The manufacturer's emission factors are lower than the AP-42 factors for CO, and higher for NO, and VOC.

3. Monitoring Plan

Emissions will be determined by multiplying manufacturer's emission factors by the Btu consumption of the engine. Questar will be required to conduct the emissions calculations on a monthly basis with semi-annual reports and an annual compliance certification.

The source shall conduct a compliance stack test on the engine for the initial demonstration of compliance with CO and NO_x compliance emission factors and permit limits within 180 days of operating permit issuance using EPA approved methods. The test protocol must be in accordance with the requirements of the Air Pollution Control Division Compliance test manual and shall be submitted to the Division for review and approval at least thirty (30) days prior to testing.

Since the CO compliance emission factor for this engine is less than AP-42 emission factor, quarterly portable monitoring is required as indicated by the Internal Combustion engine monitoring grid developed by the Division (attached). Flue gas analyzer testing for NO_x will also be required because the relationship between NO_x and CO emission rates from reciprocating engines is critical for determining engine operating condition. Failure of a portable analysis indicates a possible exceedance and a re-test is required using calibration gasses. Failure to show compliance during subsequent retests requires notification of the Division and an EPA Reference Method stack test must then be performed.

The Opacity standard of 20% will be monitored by the use of natural gas. Inspectors may verify this with EPA Method 9 opacity readings, if necessary.

A revised APEN must be submitted to the Division as required by Regulation No. 3, Part A, Section II.C.

4. Compliance Status

An APEN is on file with the Division for this engine. No records indicating non-compliance were found in a review of the facility's APCD files and the source certified in their application that they are currently in compliance with all applicable requirements. Therefore, this unit is currently considered to be in compliance with all applicable requirements.

Unit P103 - Waukesha 4-Cycle Rich Burn Internal Combustion Engine, Model L5788G, S/N: 72066, 4.9 MMBtu/hr, 639 hp, Natural Gas Fired.

Unit P104 - Waukesha 4-Cycle Rich Burn Internal Combustion Engine, Model L7042G, S/N: 193857, 5.5 MMBtu/hr, 756 hp, Natural Gas Fired.

1. Applicable Requirements

Units P103 and P104 were last modified in 1979 and 1974, respectively. Prior to June 1983, Colorado Regulation No. 3, Part B, Section III.D.c.ii exempted engines less than 1000 hp from state permitting requirements. As noted above, these engines meets this exemption criteria. The applicable requirements for these engines are as follows:

- 20% Opacity limitation during normal operations (Regulation No. 1, Section II.A.1)
- APEN Reporting (Regulation No. 3, Part A, Section II)

2. Emission Factors

Emissions from these engines are produced during the combustion process, and are dependent upon the air to fuel ratio adjustment, engine design specifications, and specific properties of the natural gas being burned. The pollutants of concern are NO_x , CO and VOC. The AP-42 (EPA Compilation of Air Pollutant Emission Factors, October 1996) emission factors for 4-cycle rich burn reciprocating engines from Table 3.2-1 and the manufacturer's emission factors for these engines are as follows:

| | | Manufacturer (g/hp-hr) | | |
|-----------------|-----------------|------------------------|------|--|
| Pollutant | AP-42 (g/hp-hr) | <u>P103</u> | P104 | |
| NO _x | 10 | 17.4 | 16.4 | |
| CO | 8.6 | 1.0 | 0.9 | |
| VOC | 0.14 | 0.13 | 0.09 | |

The manufacturer's emission factors for units P103 and P104 are higher than the AP-42 factors for NO_x , lower for CO and VOC.

3. Monitoring Plan

Questar shall calculate emissions for fee purposes by multiplying the manufacturer's emission factors by the maximum site-rated horsepower and the recorded hours of operation. They will be required to conduct the emissions calculations on an annual basis and submit an annual report with the compliance certification.

Since the CO compliance emission factors for these engines are less than AP-42 emission factor, quarterly portable monitoring is required as indicated by the Internal Combustion engine monitoring grid developed by the Division (attached). Flue gas analyzer testing for NO_x will also be required because the relationship between NO_x and CO emission rates from reciprocating engines is critical for determining engine operating condition. Portable flue gas analysis shall be used to verify the emission factors for NO_x and CO. Failure of a portable analysis indicates a possible exceedance and a re-test is required using calibration gasses. Failure to show compliance during subsequent retests requires notification of the Division and an EPA Reference Method stack test must then be performed.

The Opacity standard of 20% will be monitored by the use of natural gas. Inspectors may verify this with EPA Method 9 opacity readings, if necessary.

A revised APEN must be submitted to the Division as required by Regulation No. 3, Part A, Section II.C.

4. Compliance Status

Current APENs reporting actual criteria emissions for the 1993 data year are on file with the Division for these engines. No records indicating non-compliance were found in a review of the facility's APCD files and the source certified in their application that they are currently in compliance with all applicable requirements. Therefore, these units are currently considered to be in compliance with all applicable requirements.

Unit P304 - Waukesha 4-Cycle Rich Burn Internal Combustion Engine,, Model F3521GU, S/N: 297834, 2.76 MMBtu/hr, 300 hp, Natural Gas Fired. Engelhard NO_x Abatement System - Non-Selective Catalytic Reduction Control Device (NSCR)

1. Applicable Requirements

This unit was first placed in service in 1994 and is permitted under the initial approval Colorado Construction Permit 94MF252-1. The applicable requirements for this engine are as follows:

- NO_x: 8.7 tpy (Colorado Construction Permit 94MF252-1)
- CO: 8.7 tpy (Colorado Construction Permit 94MF252-1)
- VOC: 1.8 tpy (Colorado Construction Permit 94MF252-1)
- Fuel use limited to 22.6 MMscf/vr (Colorado Construction Permit 94MF252-1)
- 20% Opacity limitation during normal operations (Regulation No. 1, Section II.A.1)
- APEN Reporting (Regulation No. 3, Part A, Section II)

The due date of the first semi-annual monitoring report required by this operating permit will be more than 180 days after the initial approval construction permit was issued and/or the equipment commenced operation. Therefore, the Division considers that the Responsible Official certification submitted with that report will serve as the self-certification for Colorado Construction Permit 94MF252-1 and the appropriate provisions of the construction permit have been directly incorporated into this operating permit.

2. Emission Factors

Emissions from this engine are produced during the combustion process, and are dependent upon the air to fuel ratio adjustment, engine design specifications, and specific properties of the natural gas being burned. The pollutants of concern are NO_x , CO and VOC. For permitted engines, it is Division policy to convert horsepower-based emission factors to fuel-based emission factors. The emission factor conversion is accomplished

by using the horsepower-based emission factor, the design heat rate of the engine, and the engine horsepower as shown in the attached Engineering Calculation Worksheet. The resulting fuel-based emission factors for manufacturer's factors and AP-42 (EPA Compilation of Air Pollutant Emission Factors, October 1996) emission factors for nonselective catalytic reduction on 4-cycle rich burn reciprocating engines from Table 3.2-1 (VOC) and 3 (NO $_{\rm x}$ and CO) are as follows:

| <u>Pollutant</u> | AP-42 (lb/MMBtu) | Manufacturer (lb/MMBtu) |
|------------------|------------------|-------------------------|
| NO_x | 0.58 | 0.72 |
| CO | 2.4 | 0.72 |
| VOC | 0.03 | 0.15 |

Manufacturer's emission factors are higher than the AP-42 factors for NO_x and VOC, and lower for CO.

3. Monitoring Plan

Emissions will be determined by multiplying manufacturer's emission factors by the Btu consumption of the engine. Questar will be required to conduct the emissions calculations on a monthly basis with semi-annual reports and an annual compliance certification.

Since the CO compliance emission factor for this engine is less than AP-42 emission factor, quarterly portable monitoring is required as indicated by the Internal Combustion engine monitoring grid developed by the Division (attached). Flue gas analyzer testing for NO_x will also be required because the relationship between NO_x and CO emission rates from the engine is critical for determining engine operating condition. Failure of a portable analysis indicates a possible exceedance and a re-test is required using calibration gasses. Failure to show compliance during subsequent retests requires notification of the Division and an EPA Reference Method stack test must then be performed.

Questar shall monitor pressure drop and exhaust gas temperature drop of the NSCR monthly to assess engine and NSCR operating condition. During those months when portable monitoring is scheduled, these parameters are to be monitored and recorded during the portable monitoring event. The oxygen sensor shall be replaced every 2,000 hours of operation. The NSCR shall be operated according to manufacturer's recommendations at all times.

The Opacity standard of 20% will be monitored by the use of natural gas. Inspectors may verify this with EPA Method 9 opacity readings, if necessary.

A revised APEN must be submitted to the Division as required by Regulation No. 3, Part A, Section II.C.

4. Compliance Status

A current APEN reporting actual criteria emissions for the 1997 data year is on file with the

Division for this engine. No records indicating non-compliance were found in a review of the facility's APCD files and the source certified in their application that they are currently in compliance with all applicable requirements. Therefore, this unit is currently considered to be in compliance with all applicable requirements.

Unit P305 - Waukesha 4-Cycle Rich Burn Internal Combustion Engine, Model F3521GU, S/N: 295183, 2.76 MMBtu/hr, 300 hp, Natural Gas Fired.

1. Applicable Requirements

This unit was first placed in service in 1994 and is permitted under the initial approval Colorado Construction Permit 94MF252-2. The applicable requirements for this engine are as follows:

- NO_x: 4.8 tpy (Colorado Construction Permit 94MF252-2)
- CO: 0.3 tpy (Colorado Construction Permit 94MF252-2)
- Fuel use limited to 2.08 MMscf/yr (Colorado Construction Permit 94MF252-2)
- 20% Opacity limitation during normal operations (Regulation No. 1, Section II.A.1)
- APEN Reporting (Regulation No. 3, Part A, Section II)

The due date of the first semi-annual monitoring report required by this operating permit will be more than 180 days after the initial approval construction permit was issued and/or the equipment commenced operation. Therefore, the Division considers that the Responsible Official certification submitted with that report will serve as the self-certification for Colorado Construction Permit 94MF252-1 and the appropriate provisions of the construction permit have been directly incorporated into this operating permit.

2. Emission Factors

Emissions from this engine are produced during the combustion process, and are dependent upon the air to fuel ratio adjustment, engine design specifications, and specific properties of the natural gas being burned. The pollutants of concern are NO_x , CO and VOC. For permitted engines, it is Division policy to convert horsepower-based emission factors to fuel-based emission factors. The emission factor conversion is accomplished by using the horsepower-based emission factor, the design heat rate of the engine, and the engine horsepower as shown in the attached Engineering Calculation Worksheet. The resulting fuel-based emission factors for manufacturer's factors and AP-42 emission factors for 4-cycle rich burn reciprocating engines from Table 3.2-1 (EPA Compilation of Air Pollutant Emission Factors, October 1996) are as follows:

| <u>Pollutant</u> | AP-42 (lb/MMBtu) | Manufacturer (lb/MMBtu) |
|------------------|------------------|-------------------------|
| NO _x | 2.3 | 4.29 |
| CO | 1.6 | 0.24 |
| VOC | 0.03 | 0.02 |

The emission unit does not have a VOC emission limit. The VOC emission factors listed

above unit shall be used to determine emissions for APEN reporting purposes. Manufacturer's emission factors are higher than the AP-42 factors for NO_x and lower for CO.

3. Monitoring Plan

Emissions will be determined by multiplying manufacturer's emission factors by the Btu consumption of the engine. Questar will be required to conduct the emissions calculations for NO_x and CO on a monthly basis with semi-annual reports and an annual compliance certification. Questar will conduct VOC emissions calculations annually with semi-annual reports and an annual compliance certification.

Since the CO compliance emission factor for this engine is less than AP-42 emission factor, quarterly portable monitoring is required as indicated by the Internal Combustion engine monitoring grid developed by the Division (attached). Flue gas analyzer testing for NO_x will also be required because the relationship between NO_x and CO emission rates from the engine is critical for determining engine operating condition. Failure of a portable analysis indicates a possible exceedance and a re-test is required using calibration gasses. Failure to show compliance during subsequent retests requires notification of the Division and an EPA Reference Method stack test must then be performed.

The Opacity standard of 20% will be monitored by the use of natural gas. Inspectors may verify this with EPA Method 9 opacity readings, if necessary.

A revised APEN must be submitted to the Division as required by Regulation No. 3, Part A, Section II.C.

4. Compliance Status

A current APEN reporting actual criteria emissions for the 1997 data year is on file with the Division for this engine. No records indicating non-compliance were found in a review of the facility's APCD files and the source certified in their application that they are currently in compliance with all applicable requirements. Therefore, this unit is currently considered to be in compliance with all applicable requirements.

Unit P501 - Stearns Roger Triethylene Glycol Dehydration Unit, Model and S/N: Unknown, 30 MMscf/day capacity.

1. Applicable Requirements

This dehydrator was last modified in 1947 and is therefore grandfathered from Colorado Construction Permitting requirements per Regulation No. 3, Part B.I.A. The applicable requirement for this unit is as follows:

• APEN Reporting (Regulation No. 3, Part A, Section II)

A MACT for Oil and Natural Gas Production/Natural Gas Transmission and Storage is scheduled to be promulgated in May 1999.

2. Emission Factors

Triethylene glycol is contacted with the natural gas stream to remove moisture. This mixture is heated in the still portion of the unit which drives off the water and some entrained VOC through the still vent. Emissions from this process are typically predicted using the Gas Research Institute's GLYCalc Model Version 3.0 or higher. Emission factors of VOC and various HAPs are dependent upon the variables input into this Model. These variables include glycol recirculation rate, cubic feet of gas processed, cold separator temperature and pressure, and percentage breakdown by weight of constituents in the natural gas. Combustion emissions from the heater are exhausted through a separate stack. The heater for this emission unit is rated at 1.5 MMBtu/hr and falls under the insignificant activity category of Regulation No. 3, Part C, Section II.E.3.k. Therefore, emissions from the heater are considered an insignificant activity for the Operating Permit.

3. Monitoring Plan

Questar will use the GRI GLYCalc Model Version 3.0 or higher to predict annual emissions of VOC and HAPs from the still vent of this dehydration unit. Input parameters to this Model will be verified annually at a minimum, with more frequent data collection if necessary to obtain representative values. An extended wet gas analysis will be required annually. Should a significant increase of VOC or HAPs occur as defined in Colorado Reg. 3, Part A, Section II.C.2. compared to the APEN currently on file with the Division, a revised APEN will be required to update the Inventory.

4. Compliance Status

An APEN reporting 33.5 tpy of VOC emissions is on file with the Division for this unit. However, no HAPs were reported on an APEN to the Division. Therefore, this unit is currently not considered to be in compliance with all Applicable Requirements.

Unit P502 - Enertec Triethylene Glycol Dehydration Unit, Model and S/N: Unknown, 1.2 MMscf/day capacity.

1. Applicable Requirements

This dehydrator was last modified in 1993. Questar reported actual VOC emissions for this unit at less than 2 tpy. However, actual Benzene emissions from this unit are over the deminimis level of 50 lb/yr. Therefore, the applicable requirement for this unit is as follows:

APEN Reporting (Regulation No. 3, Part A, Section II)

A MACT for Oil and Natural Gas Production/Natural Gas Transmission and Storage is

scheduled to be promulgated in May 1999.

2. Emission Factors

Triethylene glycol is contacted with the natural gas stream to remove moisture. This mixture is heated in the still portion of the unit which drives off the water and some entrained VOC through the still vent. Emissions from this process are typically predicted using the Gas Research Institute's GLYCalc Model Version 3.0 or higher. Emission factors of VOC and various HAPs are dependent upon the variables input into this Model. These variables include glycol recirculation rate, cubic feet of gas processed, cold separator temperature and pressure, and percentage breakdown by weight of constituents in the natural gas. Combustion emissions from the heater are exhausted through a separate stack. The heater for this emission unit is rated at 0.1 MMBtu/hr and falls under the insignificant activity category of Regulation No. 3, Part C, Section II.E.3.k. Therefore, emissions from the heater are considered an insignificant activity for the Operating Permit.

3. Monitoring Plan

Questar will use the GRI GLYCalc Model Version 3.0 or higher to predict annual emissions of VOC and HAPs from the still vent of this dehydration unit to verify fees. Input parameters to this Model will be verified annually at a minimum, with more frequent data collection if necessary to obtain representative values. An extended wet gas analysis will be required annually. Should a significant increase of VOC or HAPs occur as defined in Colorado Reg. 3, Part A, Section II.C.2. compared to the APEN currently on file with the Division, a revised APEN will be required to update the Inventory.

4. Compliance Status

An APEN reporting 1.3 tpy of VOC emissions is on file with the Division for this unit. However, no HAPs were reported on an APEN to the Division. Therefore, this unit is currently not considered to be in compliance with all Applicable Requirements.

IV. Insignificant Activities

The insignificant activities identified in the Title V Operating Permit Application by Questar are as follows:

Air Pollution Emission Units with Emissions Below APEN De Minimis Level

Questar identified compressor station fugitive emissions as insignificant activities under Colorado Regulation No. 3, Part C, Section II.E.3.a.

Fuel Burning Equipment

Questar identified combustion sources that qualify as insignificant activities under Colorado Regulation No. 3, Part C, Section II.E.3.k, gaseous fuel burning equipment with a design heat rate less than 5 MMBtu/hr. These units are listed in Appendix A in the Operating Permit.

Storage Tanks

Questar identified storage tanks that qualify as insignificant activities under Colorado Regulation No. 3, Part C, Section II.E.3.n, ddd, and fff. These units are listed in Appendix A in the Operating Permit.

Chemical Storage

Questar included chemical storage that qualifies as an insignificant activity under Colorado Regulation No. 3, Part C, Section II.E.3.mm.

Landscaping Devices

Questar included landscaping devices that qualify as insignificant activities under Colorado Regulation No. 3, Part C, Section II.E.3.bb.

V. Alternative Operating Scenarios

There were no alternative operating scenarios requested.

VI. Permit Shield

No specific regulations were cited by Questar as non-applicable to this source.

VII. Short Term Limits Deleted from Operating Permit

| Construction Permit | Emission Unit | Short Term Limit | |
|---------------------|---------------|-------------------|--------------|
| 94MF252-1 | P304 | NO _x : | 1.98 lb/hr |
| | | CO: | 1.98 lb/hr |
| | | VOC: | 0.41 lb/hr |
| | | Fuel: | 2,579 scf/hr |
| 94MF252-2 | P305 | NO _x : | 11.91 lb/hr |
| | | CO: | 0.65 lb/hr |
| | | Fuel: | 2,579 scf/hr |